Kingdom of Saudi Arabia
Ministry of Higher Education
Majmaah University
Zulfi, College of Sciences
Mathematics Department

جامعة المجمعة
Majmaah University

المملكة العربية السعودية
وزارة التعليم العالي
جامعة المجمعة
كلية العلـــوم بالزلفي
قسم الرياضيات

COURSE CLASSIFICATION FORM

Course Number/Name		**Math(228+204) Subjects in Applied**	
Prepared by		**Prof. Dr. Mohamed Abdel-Hakim Ahmed**	
Program Learning Outcomes	**Levels* (0,1,2, 3,4,5)**	**Relevant Activities**	**Assessment Methods/Metrics**
a1. Apply fundamentals and concepts of mathematics.	**5**	- Lectures - assignments - Oral discussion	• 3 Midterm and final exam • Home work
a2. Apply fundamentals and concepts General sciences and Computer skills.	**4**	- assignments - Oral discussion	• 1 Midterm and final exam • Home work
a3. Realize Social and ethical values	**1**		• Oral discussion
b1. Read and construct mathematical arguments and proofs	**4**	- Lectures - assignments - Oral discussion	-Home work
b2. Apply critical thinking skills to solve problems that can be modeled mathematically.	**5**	- Lectures - assignments - Oral discussion	• 3 Midterm and final exam+ Home work
c1. Work independently and within a team	**4**	Divided students into groups and using oral discussion --homework	• Home work
c2. Bear responsibility for different situations.	**2**		• Quizzes
c3. Realize codes of ethics and their importance.	**0**		
d1. Communicate a depth and breadth of mathematical knowledge, both orally and in writing.	**4**	- Lectures - assignments - Oral discussion	• 3 Midterm + final exam • Home work • Quizzes
d2. Ability to Organize, connect and communicate mathematical and algorithmic ideas.	**4**	- Lectures - assignments -Oral discussion	• Home work • Quizzes
d3. Critically interpret numerical and graphical data.	**4**	- assignments on information data and represented data	• Home work • Quizzes
e1. Use computer and its applications as an office tool	**3**	- assignments on Logical expression	Home work Quizzes

*** Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At All (0) indicating the level to which you believe, as an instructor, the students have achieved these outcomes in this course.**

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Course Objectives and Outcomes

Course Number: Math(228+204) **Course Name: Vectors Calculus**

Prepared by: Prof. Dr. Mohamed Abdelhakim Ahmed

Table 1: Relationship of course objectives/outcomes with PLO and ASIIN Criteria

Course Objectives:	Course Outcomes:	ASIIN	PLO
Have the knowledge of vectors and algebraic operations on it.	**Define** and **recognize** the algebraic operations on the vectors in 2-3 dimension.	a, b, c, d, m	
	Shown the ability of knowledge the physical meaning of the algebraic operations on the vectors.	b, c, m, n	
	Illustrate how to communicating with: Peers, Lecturers and Community.	l, n	
Have the knowledge of the equation of the straight line , plane, and the space.	**Define** and **recognize** the equations of the straight line, plane, space	a, b, c, e, j	
	Shown the ability of working independently and with groups.	n, m	
	Illustrate how take up responsibility.	l, n	
Studying the differential operator Del and the properties.	**Define** and **recognize** the differential operator Del and the properties	a, b, f, h	
	ability to **write** differential operator Del and the properties in any coordinates	a, g, j	
Studying the differential operator Del and their properties and how to find the relation between Del. In different coordinates.	**Define** and **recognize** the relations and its properties	a, b, c, h	
	Appraise how to Use the computer skills and library.	d, h, i	
	Illustrate how to Search the internet and using software programs to deal with problems	d, h	
Have the knowledge of grad, div, curl and their properties.	**Define** and **recognize** the group theory	a, e, i	
	interpret how to Know the group theory using the internet	k, h, g	
Studying the grad, div, curl and their properties and applications on it in different coordinates.	**Define** and **recognize** the ring theory	a, i	
	interpret how to Know the ring theory using the internet	h, I, k	
Studying the Gauss theory, Green theory and Stock theory as	**Define** and **recognize** the different theorems, Gauss, Green, Stock, and interpret how to know	a, g, h, i,	

application on Del.	these using the internet	k	

Table 2: Methods of assessment of course syllabus

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Assessment Method	Number/Type				Instructor Assessed	TA/Grader Assessed	Peer/Self Assessed
Homework	5 homework assignments				x		
Mid Terms/Final Exams	2 mid-term; 1 final exam				x		
Quizzes	One biweekly				x		
Individual Projects	1-2 wks	3-4 wks	1/2 sem	Full sem			
Team Projects	1-2 wks	3-4 wks x	1/2 sem	Full sem x	x		X
Lab Assignments							
Computer Assignments							
Computer Tools Used							
Oral Presentations	One				x		X
Written Reports	One				x		
Other	Design project (project binder)				x		

Outcome of ASIIN	
a	Graduates have sound mathematical knowledge. They have a profound overview of the contents of fundamental mathematical disciplines and are able to identify their correlations.
b	Graduates are able to recognise mathematics-related problems, assess their solvability and solve them within a specified time frame.
c	Graduates have a basic ability to work in a scientific way. They are in particular able to formulate mathematical hypotheses and have an understanding of how such hypotheses can be verified or falsified using mathematical methods.
d	Graduates can flexibly apply mathematical methods of fundamental component areas of mathematics and are able to transfer the findings obtained to other component areas or applications.
e	Graduates have abstraction ability and are able to recognize analogies and basic patterns
f	Graduates are able to think in a conceptual, analytical and logical manner.
g	Graduates have an extensive comprehension of the significance of mathematical modelling. Are able to create mathematical models for mathematical problems as well as for problems in other areas of science or everyday life, and have a selection of problem solving strategies at their disposal.
h	Graduates can use basic methods of computer-aided simulation, mathematical software and programming to solve mathematical problems
i	Graduates are in a position to solve more extensive mathematical
j	Graduates can classify, recognize, formulate and solve mathematics-related problems
k	Graduates use electronic media competently
l	Graduates can implement lifelong learning strategies. A prerequisite for this is that the students are per-severing and that they have developed persistence.
m	Graduates can recognize, formulate, classify and solve problems in a mathematical context
n	Graduates can communicate, possibly also in a foreign language, and contribute their work effectively in teams

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Instructor Course Evaluation Form

The purpose of this evaluation is to collect instructor feedback for improving this course and the Mathematics program. Information will also be used for program accreditation purposes.

I. Program Learning Outcomes Evaluations

Course Number/Name	Math(228+204)Vectors Calculus	Semester	First 1434/1435
Instructor	Prof. Mohamed Abdel-Hakim Ahmed		

The course listed above is designed for students to achieve the following outcomes at a Not At All, Low, Low- Medium, Medium, Medium-High or High level.

Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At All (0) indicating the level to which you believe, as an instructor, the students have achieved these outcomes in this course.

Program Learning Outcomes	Relevant Activities	5	4	3	2	1	0
a1. Apply fundamentals and concepts of mathematics.	Lectures, Assignments, oral discussion, and homework.	5					
a2. Apply fundamentals and concepts General sciences and Computer skills.	Assignments on creativity dealing with physical systems		4				
a3. Realize Social and ethical values.	Assignments, and oral discussion				2		
b1. Read and construct mathematical arguments and proofs.	Lectures, assignments, and Oral discussion		4				
b2. Apply critical thinking skills to solve problems that can be modeled mathematically.	Lectures, assignments and Oral discussion.	5					
c1. Work independently and within a team	Divided students into groups and using oral discussion with homework		4				
c2. Bear responsibility for different situations.	Lectures, assignments, and oral discussion			3			
c3. Realize codes of ethics and their importance.	Lectures, Oral discussion				2		
d1. Communicate a depth and breadth of mathematical knowledge, both orally and in writing.	Lectures and assignments, and homework		4				
d2. Ability to Organize, connect and communicate mathematical and algorithmic ideas.	Lectures, assignments, and Oral discussion		4				
d3. Critically interpret numerical and graphical data.	Lectures, assignments, and Oral discussion		4				
e1. Use computer and its applications as an office tool	Lectures, oral Discussions, and homework.			3			

II. Catalog Description , and Course Prerequisites Evaluations:

Based on your experiences in the course, please respond by circling the most appropriate number. Circle N/A for items that are not applicable, or if you have no opinion.

Catalog Description 1434-1435	• Studying the vectors in 2-3 dimensional and algebraic operations on them. • Studying the equation of lines, plane and applied their properties. • Solving some problems on operation of vectors and on equations of lines and the plane • Have the knowledge of the vector differential operator Del and the gradient-divergence- curl. Vector integration and some theorems on it and also solving some problems on it. • Have the knowledge of curvilinear coordinates. • Have the knowledge of transformation of coordinates and operations on it. • Studying special orthogonal coordinate systems and solve some problems on it.					
Course Prerequisites:	Math321+ Math 204	**Circle One (5=Strongly Agree; 1=Strongly disagree)**				
2a. Do you believe that the catalog description (above) is accurate for this course?		5	(4)	3	2	1	N/A
2b. Do you believe that the course prerequisites (above) are appropriate for this course?		5	(4)	3	2	1	N/A
2c. If not, please list any prerequisites you believe are not appropriate for this course.							

III. Textbook(s) and/or Lab Manuals (if applicable) Evaluations:

Textbook(s) and/or Lab Manuals (if applicable):	• H Anton:Calculus with Analytic Gometry 4th Edition,John Wiley &Sons,New York,1992 • Salas,Hille,Etgen: Calculus of one and several Variaables,11th Edition,John Wiley&Sons,New York,2006.	**Circle One (5=Strongly Agree; 1=Strongly Disagree)**				
3a. In general, do you believe this to be an appropriate textbook for this course?		(5)	4	3	2	1	N/A
3b. Was the organization of the textbook appropriate for this course?		5	(4)	3	2	1	N/A
3c. Was the level of the textbook appropriate for this course?		5	(4)	3	2	1	N/A

IV. Computer usage (if applicable) Evaluations:

Computer usage (if applicable):	**Circle One (5=Strongly Agree; 1=Strongly Disagree)**					
5a. Was the use of computer well integrated with the course?	5	4	(3)	2	1	N/A
5b. Was the computer lab adequately equipped with well-maintained and updated computers?	5	(4)	3	2	1	N/A
5c. Was the computer lab equipped with sufficient number of computers?	5	4	(3)	2	1	N/A
5d. Were the special software packages (MATLAB, SPSS, C+, FORTRAN, etc) available and accessible?	5	4	3	2	1	(N/A)
5e. Was adequate technical support available when needed?	5	4	3	2	(1)	(N/A

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Student Course Evaluation Form

The purpose of this evaluation is to collect instructor feedback for improving this course and the Mathematics program. Information will also be used for program accreditation purposes.

I. Program Learning Outcomes Evaluations

Course Number/Name	Math (228+204)Vectors Calculus	Semester	Second 1434/1435
Instructor	**Prof. Dr. Mohamed Abdel-Hakim Ahmed**		
Student Name	----------	**Student ID**	----------

The course listed above is designed for students to achieve the following outcomes at a Not At All, Low, Low- Medium, Medium, Medium-High or High level.

Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At All (0) indicating the level to which you believe, as an instructor, the students have achieved these outcomes in this course.

Program Learning Outcomes	5	4	3	2	1	0
a1. Apply fundamentals and concepts of mathematics.						
a2. Apply fundamentals and concepts General sciences and Computer skills.						
a3. Realize Social and ethical values.						
b1. Read and construct mathematical arguments and proofs.						
b2. Apply critical thinking skills to solve problems that can be modeled mathematically.						
c1. Work independently and within a team						
c2. Bear responsibility for different situations.						
c3. Realize codes of ethics and their importance.						
d1. Communicate a depth and breadth of mathematical knowledge, both orally and in writing.						
d2. Ability to Organize, connect and communicate mathematical and algorithmic ideas.						
d3. Critically interpret numerical and graphical data.						
e1. Use computer and its applications as an office tool						

II. Catalog Description , and Course Prerequisites Evaluations:

Based on your experiences in the course, please respond by circling the most appropriate number. Circle N/A for items that are not applicable, or if you have no opinion.

Catalog Description 1434-1435	• **Mathematical Logic + Mathematical Induction** • **Functions and their properties + Sets and their properties** • **Relations and their properties + Representing relations + Equivalence relation** • **Groups and their properties** • **Rings and their properties + polynomials ring + Partial fractions** • **Field and their properties**						
Course Prerequisites:	PMTH 112 + PMTH127	**Circle One (5=Strongly Agree; 1=Strongly disagree)**					
2a. Do you believe that the catalog description (above) is accurate for this course?		**5**	**4**	**3**	**2**	**1**	**N/A**
2b. Do you believe that the course prerequisites (above) are appropriate for this course?		**5**	**4**	**3**	**2**	**1**	**N/A**
2c. If not, please list any prerequisites you believe are not appropriate for this course.							

III. Textbook(s) and/or Lab Manuals (if applicable) Evaluations:

Textbook(s) and/or Lab Manuals (if applicable):	• **Calculus with analytic Geometry. ByRoland E.Larson, Bruce H.Edwards, Robert P.Hostetler** • **Kenneth H. Rosen: Discrete Mathematics and its application, Sixth Edition, Mc Graw Hill, 2006.**	**Circle One (5=Strongly Agree; 1=Strongly Disagree)**					
3a. In general, do you believe this to be an appropriate textbook for this course?		**5**	**4**	**3**	**2**	**1**	**N/A**
3b. Was the organization of the textbook appropriate for this course?		**5**	**4**	**3**	**2**	**1**	**N/A**
3c. Was the level of the textbook appropriate for this course?		**5**	**4**	**3**	**2**	**1**	**N/A**

IV. Computer usage (if applicable) Evaluations:

Computer usage (if applicable):		**Circle One (5=Strongly Agree; 1=Strongly Disagree)**					
4a. Was the use of computer well integrated with the course?		**5**	**4**	**3**	**2**	**1**	**N/A**
4b. Was the computer lab adequately equipped with well-maintained and updated computers?		**5**	**4**	**3**	**2**	**1**	**N/A**
4c. Was the computer lab equipped with sufficient number of computers?		**5**	**5**	**5**	**2**	**1**	**N/A**
4d. Were the special software packages (MATLAB, SPSS, C+, FORTRAN, etc) available and accessible?		**5**	**4**	**3**	**2**	**1**	**N/A**
4e. Was adequate technical support available when needed?		**5**	**4**	**3**	**2**	**1**	**N/A**

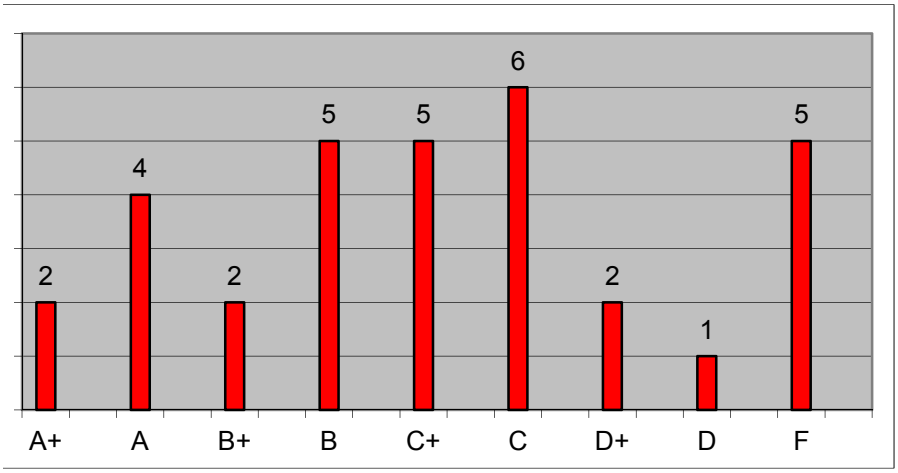
جامعة المجمعة

كلية العلوم بالزلفي

نموذج تحويل العلامات النهائي من مئوي الى أحرف لطلبة البكالوريوس

الفصل الدراسي	الأول	١٤٣٤-١٤٣٥	الترم الثاني
القسم	Mathematics	رقم المادة	Math.(228+204)
استاذ المادة	Prof. Mohamed A. El-Hakim	اســـــم المـــــــادة	Vectors Calculus
عدد الطلبة المسجليـن	32	عدد الطلبة الغائبين عن التهائي	0
عدد الطلبة النـــاجحين	27	عدد الطلبة الراسبين	5
متوسط الدرجات	3.30	العلامة الدنيا	F
الدرجـة العليـــــا	A +	نسبة النجاح	84.38%

Average	Percentage	SUM	Count	TO	From	Average
	6.25	10	2	100	95	A+
	12.5	19	4	94	90	A
	6.25	9	2	89	85	B+
	15.625	20	5	84	80	B
	15.625	17.5	5	79	75	C+
	18.75	18	6	74	70	C
	6.25	5	2	69	65	D+
	3.125	2	1	64	60	D
	15.625	5	5	59	0	F
3.3	100	106	32			Total Students



التقدير	العلامة	الرقم
A	90	1
C	70	2
B	81	3
A	92	4
C+	77	5
D+	66	6
A+	96	7
B+	85	8
A	91	9
B	82	10
C+	77	11
F	49	12
F	40	13
B	82	14
C	70	15
C	71	16
A	92	17
C+	75	18
B+	86	19
B	81	20
B	82	21
A+	96	22
C+	77	23
F	46	24
C+	77	25
C	71	26
C	70	27
F	47	28
D+	66	29
F	45	30
D	61	31
C	72	32